ABSTRACT

The invention relates to a sonic or ultrasonic transducer (1), which is embodied as a radial oscillator. So that the sonic or ultrasonic transducer can be used at high temperatures, the matching layer (4) is located between the radial oscillator and the atmosphere into which the ultrasonic signals are transmitted, and is made from a material that has a dimensional stability up to a temperature which lies above the temperature at the installation location of the sonic or ultrasonic transducer (1). Furthermore, the matching layer is selected such that its material-specific coefficient of thermal expansion is greater than that of the materials of the piezoelectric unit (2) and the coupling ring (3), and that the modulus of elasticity of the material of the matching layer (4) is at least one order of magnitude smaller than that of the piezoelectric unit (2) and/or the coupling ring (3).